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[002] FIELD OF THE INVENTION

[003] The invention relates to an electromagnetic hysteresis unit.

[004] BACKGROUND OF THE INVENTION

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[014] The problem on which the invention is based is to improve in the slip operation the brief and also the permanent thermal load of a hysteresis unit.

[015] SUMMARY OF THE INVENTION

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[024] BRIEF DESCRIPTION OF THE DRAWING(S)

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[032] DETAILED DESCRIPTION OF THE INVENTION

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15. (NEW) An electromagnetic hysteresis unit (1, 23) having a magnetic north pole (4) around an axis of rotation (14), at a distance in a peripheral direction (15) from a south pole (5), alternating with the north and south poles, is in a magnet body (2, 3) which comprises a magnet coil (6) a movable hysteresis ring (16) having with slight play relative to said poles (4, 5) is connected with the rotor (17) peripheral surfaces of the north pole (4) and south pole (5) lie on the same circle and opposite to the same peripheral surface of said hysteresis ring (16), said hysteresis ring (16) surrounds said north pole (4) and said south pole (5), said poles are formed by pole fingers (4, 5) which departing from axial front walls of said magnet body (2, 3) are aligned upon each other and have from each other a greater distance than from said hysteresis ring (16) and said hysteresis ring (16) abuts a peripheral surface on said rotor (17), wherein said rotor (17) consists of a material of good heat conductivity in order to improve the heat conduction, that said magnet body (2, 3) is constructed in two parts and radially divided in the area of the magnet coil (6), that in said magnet body (2, 3) is supported by means of two ball bearings (10, 11) a continuous shaft (12) upon which said rotor (17) is firmly mounted, a collar (22) of said rotor (17) and a guard ring (21) mounted on said shaft (12) forming axial stops on which abuts a respective inner ring of one of said ball bearings (10, 11) while outer rings of said ball bearings abut on axial stops each formed by one of said two parts of said magnet body (2, 3) and that said magnet body is thick walled, the pole fingers being integrated in the two parts of said magnet body and tapering to their free end in axial direction relative to their radial and tangential expansion and tapering to a point relative to their radial expansion.

16. (NEW) The hysteresis unit (1, 23) according to claim 15, wherein said rotor (17) has cooling devices (18).

17. (NEW) The hysteresis unit (1, 23) according to claim 15, wherein said pole fingers (4, 5) overlap in peripheral direction (15).

18. (NEW) The hysteresis unit (1, 23) according to claim 15, wherein said magnet body (2) is disposed fastened on the housing and the current supply (7) is shifted through a free space (19) formed between said pole fingers (4, 5), said rotor being designed pot-shaped open on one side.

19. (NEW) The hysteresis unit (1, 23) with magnetic north pole (4) around an axis of rotation (14), at a distance in peripheral direction (15) from south pole (5), alternating with the pole, is situated in a magnet body (2, 3) which comprises a magnet coil (6), a movable hysteresis ring (16) having a slight play relative to said poles (4, 5) is connected with the rotor (17), wherein the peripheral surfaces of the north pole (4) and south pole (5) lie on the same circle and opposite to the same peripheral surface of said hysteresis ring (16), the hysteresis ring (16) surrounds said north pole (4) and said south pole (5), said poles being formed by pole fingers (4, 5) which, departing from axial front walls of said magnet body (2, 3) are aligned upon each other and have from each other a greater distance than from said hysteresis ring (16) and said hysteresis ring (16) abuts by a peripheral surface on said rotor (17), wherein said pole fingers (4, 5) are interconnected by a non-magnetizable material.

20. (NEW) The hysteresis unit (1, 23) according to claim 19, wherein said material, preferably brass, has good heat conductivity.

21. (NEW) The hysteresis unit (1, 23) according to claim 19, wherein said pole fingers (4, 5) are shrunk upon a connecting ring (27).

22. (NEW) The hysteresis unit (1) according to claim 19, wherein the intermediate spaces between said pole fingers (4, 5) are filled with a non-magnetizable filling component (28).

23. (NEW) The hysteresis unit (1, 23) according to claim 19, wherein it is designed as clutch by an outer part (25) with said pole finger (5) of said magnet body (2) being separated from the latter by a thin annular gap (26) and said second magnet body (3) sitting with a small gap (29) rotatably relative to said magnet body (2) upon a rotatable part to be coupled while the first magnet body (2) is mounted fastened on the housing.

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